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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/657,223

09/07/2000

Hiromichi Tonami

D-991

1592

7590

05/21/2004

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Alexandria, VA 22314

EXAMINER

TILLERY, RASHAWN N

ART UNIT

PAPER NUMBER

2612

DATE MAILED: 05/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/657,223

**Applicant(s)**

TONAMI ET AL.

**Examiner**

Rashawn N Tillery

**Art Unit**

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2000.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) 3-5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Wilder et al (US5262871).

Regarding claim 1, Wilder discloses, in figures 2 and 6, a two-dimensional array type radiation detector (the examiner notes that Applicant's claim language does not clearly specify the "type" of detector used; and thus, given the broadest possible interpretation, a "two-dimensional array type radiation detector" could be any detector that receives light), comprising:

converting layers (Pi) for responding to radiation and outputting a charge signal corresponding to an incident amount to thereby form pixels,

switching elements (Tx, Ty) arranged in a matrix form under the converting layers and connected to the converting layers,

gate bus lines (Yi) and data bus lines (HSLi) connected to the switching elements and arranged parallel to each other in spaces of rows of the pixels,

a gate driver section (12) connected to the respective switching elements through the gate bus lines for sequentially turning on the respective switching elements at a time of reading signals,

a data collecting section (16) connected to the pixels through the data bus lines for reading out charge signals stored in the respective pixels, and

a control section (18) connected to the gate driver section and the data collecting section to control the same.

Regarding claim 2, Wilder discloses, in figure 2, one of the gate bus lines and one of the data bus lines are disposed in a space between two rows of the pixels.

#### ***Allowable Subject Matter***

Claims 3-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 3, the prior art does not teach or fairly suggest a two-dimensional array type radiation detector comprising converting layers, switching elements, gate bus lines and data bus lines, a gate driver section, a data collecting section and a control section, wherein

the two-dimensional array type radiation detector constitutes one module and a plurality of modules is connected at end surfaces where the gate bus lines and data bus lines are not formed.

Regarding claim 4, the prior art does not teach or fairly suggest a two-dimensional array type radiation detector comprising converting layers, switching elements, gate bus lines and data bus lines, a gate driver section, a data collecting section and a control section, wherein

the gate bus lines include line sections extending perpendicular to the data bus lines, one line section being connected to one gate bus line.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tonami et al teach an X-ray tomography apparatus, Akimoto et al teach a solid-state imaging device and Takemoto teaches an X-ray imaging apparatus.

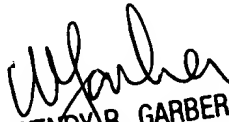
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rashawn N Tillery whose telephone number is 703-305-0627. The examiner can normally be reached on 9AM-6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on 703-305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RNT

  
WENDY R. GARBER  
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